but few tourists. Nevertheless, to the ornithologist and the egg-collector it is little short of a paradise, birds of many kinds resorting to its inhospitable shores for the breeding season in vast numbers. The variety and abundance of bird-life are, indeed, testified by the statement of the author of the handsome and exquisitely illustrated volume before us, that during his first trip he encountered no less than seventy-six species, of forty-four of which he succeeded in obtaining the eggs. This exuberance of bird life the natives do their best to keep in check, and it must be confessed that a bird protection society would find plenty of scope in the country, as all birds large enough to be eaten are shot during the breeding season, while the eggs of many species are taken by the thousand. An excuse for these practices is to be found, as the author states, in the circumstance that birds only visit this part of Lapland in order to breed, and if they did not do so then, the natives would never have a chance of killing them at all. Loons, or divers, it appears, are often taken accidentally in fishing nets, but puffins, which swarm in the country and have been described in an official publication as "ducks," are taken for food by stretching old nets across their holes.

Previous to the first of the three trips recorded in this volume, Mr. Pearson had already visited Lapland, and has described his experiences in "Beyond Petsora Eastward." Of the three trips described in the present work, the first was undertaken in 1899, and was devoted to the exploration of the northern districts of the country; in 1901 the author visited the Kanin Peninsula, while in 1903 he penetrated the interior of the country south of Kola. The year 1899 was remarkable for the late melting of the snow, which still covered the country on June 2, when the herring-gull was found nesting on little patches of clear ground in the snow. During this year the starling seems to have first extended its range into the country, the species being at that time quite unknown to the natives. Among the larger birds, white-tailed eagles were found to be not uncommon, although, owing to the rewards offered by Government for their eggs and young, they can only build in safety on inaccessible crags. Ospreys were, however, sought in vain, these birds being persecuted by the Finns on account of the fish they destroy. An immense eagle's nest in one of the few trees remaining on the Murman coast was one of the "finds" of this trip. Very notable, also, was the discovery of a nest of the rough-legged buzzard on the ground. Among the prizes in the way of eggs may be mentioned those of the little stint and the dotterel, while those of the turnstone, although by no means uncommon, were exceedingly difficult to discover. A breeding colony of glaucous gulls yielded quite a harvest of eggs. Apparently the earliest breeder is the Siberian jay, which nests in April, when the country is inaccessible, except on ski. During his trip the author was fortunate enough to come across an old Finn who collected with John Wolley forty years ago on the Gulf of Bothnia.

The accompanying picture is an example of the illustrations which render this interesting and well written volume so attractive. R. L.

PROF. CHARLES SORET.

CHARLES SORET, honorary professor of physics at the University of Geneva, whose recent death we regret to announce, was born at Geneva on September 23, 1854. After a general course of study at the college and at the university of his native town, he devoted himself especially to the study of physics. In this he followed a family tradition, his father being the Genevese physicist Jacques-Louis Soret. Like his father, from whom he inherited his deep love and respect for scientific truth and his scrupulously exact method of working, he will be remembered as one of the most distinguished representatives of the science of Geneva. During many years, until the death of Louis Soret in 1890, he was his father's colleague and collaborator.

Charles Soret took successively at Paris the degrees of licentiate in physical science in 1876 and of licentiate in mathematical science in 1878. After a visit to Germany he returned in 1879 to the University of Geneva to fill the chair of mineralogy, a subject which, by the enthusiasm of his teaching, he rendered widely popular. His earliest works date from this period; they are published in the *Archives des Sciences physiques et naturelles* of Geneva, a journal with which he was associated during more than twenty years, and to the publication committee of which he rendered many signal services. Little noticed at first, the works of Soret opened out the way for other investigators; at the present day every mineralogist is acquainted with "Soret's Law" and "Soret's refractometer." Crystallography was the science especially cultivated by Soret; the subject-matter of his course was published by him in 1893, under the title of "Éléments de Cristallographie physique," a work well known and appreciated by specialists.

On Wartmann's death in 1886, Soret was called to the chair of experimental physics in the University of Geneva, and during two years he was burdened with a double duty. By transferring the mineralogy course to one of his students, he was enabled to continue his own peculiar studies, especially in the domain of crystallographic optics, for which he showed a marked preference. He was an excellent professor of physics and gave a new impulse to the study of that science at Geneva; the laboratory was largely extended, and many serious students came to group themselves around a master so conscientious as to devote himself almost exclusively to their scientific training. Soret would certainly have published more had he not given himself with so single a mind to the exacting and fatiguing duties of directing his laboratory.

A valued member of the faculty of science, he was at the same time appreciated by the whole university. After serving during a long period as secretary of the university senate, he was, in 1898, appointed to the honourable but exacting office of rector of the university. Owing to his serious qualities, to his firm but conciliatory character, he wielded great authority, and his duties as rector were filled with rare distinction. Applying scientific method in all things, he was a remarkable administrator, and many are the services he rendered to the university. But he overtaxed his powers, and when his rectorate expired, in 1900, he was forced to resign his professorship, a step which caused profound regret among his colleagues and friends.

After a rest of two years his health seemed reestablished. He resumed his scientific activity and his researches in the laboratory that he had created. He had just published in the *Archives* for March, 1904,[1] a new investigation of the refraction of tourmaline when, on April 4, he was removed from his family and friends by a sudden illness.

The death of Soret is a great loss to his country and to science in general. Much might still have been anticipated from a mind so lucid, so methodical,

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[1] The completion of this work is published in the May number of the *Archives*.

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and so truly scientific. In spite of his modesty, his great natural abilities made him famous in Geneva, in Switzerland, and abroad. His death leaves a gap difficult to fill.

R. Gautier.

PROF. THEODOR BREDICHIN.

For the past ten years Prof. Bredichin lived in well-earned and dignified retirement in Saint Petersburg. After a life spent in directing, with consummate ability, the activities of the two great astronomical observatories of Moscow and Pulkova, he sought, while his energies were still vigorous, opportunity for cultivating with greater leisure those studies to which he had conspicuously devoted himself while in a public position. In the midst of that self-imposed work and at the zenith of his reputation, he has been removed by death to the profound loss of science in Russia. In 1857, he was called to fill the chair of astronomy in the University of Moscow, and with it to undertake the direction of the observatory. There he remained for thirty-three years, and devoted himself to astrospectroscopic observation, a subject new in Russia, to the study of variable stars, to gravity determinations by means of pendulum observations, and to a host of inquiries with which his name has long been connected. But most of all was his attention concentrated upon the formation and behaviour of comet tails, a subject which had practically lain dormant since Bessel's researches on the comet of Halley. Of this subject he never wearied, and shortly before his death he collected and published his more important papers bearing on this inquiry. This revision was perhaps the more necessary since photographs had revealed minuter details than could easily be detected in the ordinary telescope. It must be a matter of gratification to his numerous friends that the distinguished astronomer, in spite of bad health, was able to complete a task which had occupied him for so many years.

In 1890, when Prof. Otto Struve retired from the direction of the Pulkova Observatory, Dr. Bredichin took charge of that institution, but his health did not permit him to remain long at this post, and in 1894, accompanied by the regrets of the staff, he resigned his position at the observatory, but not before he had given a decided impetus to the progress of celestial photography. We have already intimated how, in the remaining years of his life, he sought to promote the interests of his favourite science.

Some 150 papers on a variety of subjects were published by Dr. Bredichin, and by the foundation of prizes for special astronomical inquiries he still further encouraged the science. As a teacher he enjoyed the reputation of being able to inspire his pupils with a lifelong interest in astronomy, and the present position of the science in Russia owes not a little to the enthusiasm which he imparted to his pupils. At the age of 73, but with his faculties acute and with his interest in astronomy unimpaired, Russia has to regret the loss of one of her most brilliant sons, while science is deprived of an ardent and enthusiastic supporter.

ROYAL COLLEGE OF SCIENCE, 1903.

Science scholars selected from the whole of Great Britain for their ability and promise, maintaining themselves on 17*s.* 9*d.* a week, were this year saved from much privation by secret gifts of small bursaries—see the subjoined audited account. Prof. Perry says he has no right to ask for help from the generous men who helped him last year, but he has all the sturdiness of a chartered beggar—he asks in a good cause.

Royal College of Science.

BALANCE SHEET.

BURSARIES 1903–1904.

Moneys Received and Paid by Prof. Perry, November, 1903, and June, 1904.

Received				Paid			
Balance in hand from				*Nov.* 16 *to April* 25.			
last year … …	£31	5	0	27 students received			
September, 1903.				half-bursaries …	£135	0	0
R. K. Gray, Esq.…	10	0	0	*March* 23.			
B. Hopkinson, Esq.	10	0	0	1 student received			
Sir A. Noble, K.C.B.	10	0	0	the second half …	5	0	0
October 8, 1903.				*June* 10 *to June* 14.			
W. F. Stanley, Esq.	10	0	0	23 students received			
The Drapers' Co.…	100	0	0	the second halves			
The Goldsmiths' Co.	100	0	0	of their bursaries…	115	0	0
(*Royalties.*)				Balance in hand …	24	2	0
Prof. Perry … …	5	7	0				
Paid back … …	2	10	0				
	£279	2	0		£279	2	0

Twenty-seven students received 5*l.* each; only twenty-four of them applied for the second halves of their bursaries.

Audited and Signed by John W. Judd.

Dated June 23, 1904.

NOTES.

An important deputation organised by the British Association will be received by Mr. Balfour to-morrow (Friday) afternoon, and will support the plea for the State endowment of higher education and research presented by Sir Norman Lockyer in his presidential address last year. Oxford and Cambridge will be represented by their Vice-Chancellors and others, London University by Lord Rosebery (Chancellor) and others, and the Birmingham University representatives will be headed by Mr. Chamberlain (Chancellor), who it is hoped will speak for all the new universities. According to a statement prepared by the president of the British Association and revised by a committee consisting of the Deputy Vice-Chancellor of Oxford, the Vice-Chancellor of Cambridge, Sir Oliver Lodge, principal of Birmingham University, Sir Michael Foster, M.P., and Sir Henry Roscoe, the British Association has taken action regarding the State endowment of universities, because at the present juncture the highest education and research is a matter not merely of academic, but of the gravest national concern.

Prof. G. Gaffky, professor of hygiene in the University of Giessen, has accepted Prof. Koch's vacant chair in the University of Berlin.

The following appointments are announced in connection with the Institut Marey:—Prof. A. Chauveau has been elected president and director; Prof. H. Kronecker becomes vice-President; Prof. M. Levy, treasurer; and Prof. G. Weiss, secretary.

The sixth centenary of the birth of Francesco Petrarca will be celebrated at Arezzo from July 20 to 25. Among the festivities will be an historic *fête* in the amphitheatre of the Prato in fourteenth century costume, commemorating the arrival of Petrarca at Arezzo in 1350.

The Mackinnon studentships of the Royal Society have been filled for the ensuing year by the election of Mr. Bryan Cookson for research in astronomy, and particularly for a new determination of the constant of aberration and

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